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# THE PERMANENCE OF AMERICAN RAILROAD PROSPERITY.

BY H. C. G. BARNABY.

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THE railroad problem of to-day differs materially from the problem of ten years ago. To keep abreast of the times is not easy, progress and change are so rapid. It is necessary to understand the altered conditions, in order that we may appreciate the permanence of our railroad prosperity.

In the growth of railroad enterprise in the United States, there have been two distinct epochs; and we are now in the midst of the third. When railroad history began, venturesome capitalists pushed new lines into undeveloped country. If one line was successful, other energetic men rushed for the same field. Competition cut rates. High rates were at the start the sole source of profit, because traffic was light; but the traffic which at high rates supported one road could not at low rates support two roads. Both failed. Other roads, built into newly discovered mining districts, prospered while the boom lasted, and then ceased to operate. The process took some twenty-five years before the country was opened up and definite trunk-lines of travel were established. The mistakes of inexperienced promoters led to financial losses. Receiverships and reorganizations distinguished a second epoch in railroad history, a period which we may say ended when the last of the reorganized trunk-lines, the Baltimore and Ohio, was returned from the receiver's hands. This reorganization period corrected sins of capitalization. Fixed charges were reduced, bonds being replaced by stocks which did not pay dividends; and the money previously paid out in annual fixed charges was spent yearly upon the structure. Operating expenses, embracing heavy maintenance charges, absorbed nearly all of gross earnings for years. The railroads were finally re-

turned to their owners much improved physically. The third and present epoch in our railroad history, commencing about seven years ago, has met with an entirely new situation which is only gradually being appreciated, a situation an understanding of which is absolutely essential to an intelligent view of the outlook.

The first railroad problem was to open up the country and to establish lines of travel. The present railroad problem is to cheapen the cost of transportation, in order, first, to increase net profits at prevailing rates and, finally, to reduce rates. That low rates cause an increase in traffic is generally true. As our interior manufacturers are enabled to send their products to seaboard at lower rates, they can offer them for sale in foreign markets at lower prices. The development of foreign commerce reacts in turn upon the railroads, causing them to haul an increasing tonnage to seaboard. When the enormous possibilities of profit, as this country enters the world's markets, are appreciated, we shall understand why vast expenditures have been made by our railroads to shorten and cheapen the long haul. The development of foreign commerce is not the central idea in the minds of railroad magnates; but they realize that domestic traffic will also be increased by the methods which are being introduced in the struggle for foreign markets.

The building of new railroads in this country is practically at an end. Such construction as is now going on is chiefly for the piecing out of old systems, and the enlarging, by double tracking, of existing lines. The first steps in developing the modern railroad situation were based upon the conviction that new construction had gone far enough. A proper understanding between the various railroad managements was necessary to stop the building of branch lines or feeders tapping territory already well taken care of by other roads. Competition was not to stop, but it was to be governed to the point of avoiding loss. To that end agreements were entered into, and harmonious relations became common between opposing managements. A "community of interest," as it was called, was established. It is well known, as a business principle, that concessions may often be made with profitable results when a fighting attitude would bring loss. Agreements among railroads, however, never had gone very far, and never had been allowed to stand in the way of the progress of any road. When a new township started in territory contiguous to several dif-

ferent railroads, the old policy was for all the near-by railroads at once to build branch lines to the new township. Manifestly, traffic could not be heavy enough even to maintain these many lines. They were, therefore, all run at a loss, and the loss had to be paid by the parent road. Several receiverships were occasioned by such ruinous branch-line construction. The new policy was to apportion the new township or mining district to a single road, so as to make profitable operation possible. It even went further, and caused the abandonment of existing branch lines that were unnecessary.

The next step was more important,—the ownership of stock of one railroad by another, either to the point of absolute control and amalgamation, or to the point of partial control which allowed the shaping of the policy of the road controlled. Stock ownership was far more effectual as a means of securing harmony than were “gentlemen’s agreements.” The dominant railroad in any one section of the country was able by stock ownership to control the policy of all the neighboring roads. The railroads became grouped in this way into vast systems. There was no longer a possibility of the ruinous competition that had all along proved so disastrous, and that had so occupied the attention of railroad officials that they could accomplish little toward furthering larger ambitions. The competition now became of that wholesome kind which benefits all, a competition among large systems to offer the best facilities for through traffic. That is the situation of today. We shall discuss it more fully after we have examined some other features of the development of the past few years.

While the problems of control and of amalgamation were being worked out by the banking interests, railroad officials were perfecting, on their individual roads, modern methods of transportation. There is a theoretical physical condition of a railway on attaining which expenditures for betterments will cease. That condition calls for a level track with no curves, heavy steel rails, the most approved ballast, bridges of solid masonry or heavy steel, a perfect signal system and an equipment of the most modern locomotives and steel cars. It is to approach this ideal condition that present and past betterments are intended. How far the rebuilding is to go has to be determined by the needs of each road separately, and the determining point is the money advantage to be gained.

There is reason why railroads are continually building and rebuilding, instead of at the outset constructing an enduring structure. The policy is governed by the economies which will be made possible by an enduring structure, balanced against the amount of interest which will have to be paid upon the money borrowed for rebuilding. The Pennsylvania Railroad finds it profitable, at cost measured in millions, to build of solid stone a bridge wide enough to accommodate four tracks, because traffic is so heavy that the steel and wooden bridges are constantly needing expensive repairs. The resulting economy in maintenance expenses more than pays the annual charges upon the money borrowed, and a portion of the Pennsylvania Railroad structure is, in addition, made absolutely permanent and free from future need of repair. If, however, the Colorado and Southern Railroad, or another road with equivalent traffic, should put any section of its structure in perfect condition, the business handled would be too small to pay the added interest charge. Upon this general basis every railroad management, after a careful estimate of the traffic requirements of the near future, plans the class of betterments which will result in the largest showing of net profits.

To make the idea a little clearer, assume that a given railroad has fifty miles of track to relay with new rails, replacing old ones worn out. To put in some kind of a rail is imperative. Perhaps the company has plenty of money and can afford to pay for rails weighing a hundred pounds to the yard. Nevertheless, the decision is to lay sixty-pound rails, because the traffic is not sufficient to show a net annual return upon the larger outlay. The same kind of problem is met in every department. If a new railroad is being built, wooden bridges may at first be constructed. Upon light traffic profits may be made from the start. When the bridge wears out, the growth in traffic may justify a stancher structure. Some years later, a permanent steel bridge may be erected profitably, whereas an earlier improvement of this sort would have been an extravagance.

During a series of prosperous years, we have grown so accustomed to railroad improvements that we sometimes fall into the error of thinking that such expenditures are essential to the continuance of the railroad business. A few years ago, people marvelled at the improvements railroads were introducing, and talked of the economies which would follow their completion.

Sentiment, however, has undergone a change. Not only is it contended that the increased cost of labor and of supplies will offset any cheapening in other items making up the cost of transportation, but it is even argued that the great cost of necessary improvements will not be curtailed for years to come. It is this flexibility of sentiment which gives value, at this time, to a study of facts. If, as has been said, betterments are planned because of the expected demands of business, conversely, whenever depression comes, it is manifest that each railroad will stop those alterations which tend to accommodate a greater traffic, and will content itself with replacements of a more modest sort.

There is good ground for saying that future fluctuations in net earnings will not be nearly so great as formerly. This is an important feature of the present railroad situation. Stability of rates is better assured now than ever before. The unification of control and the general recognition, among dominant interests, of the necessity for rate maintenance, may be counted upon to postpone for a long time the period of lessening earnings. It would be possible to submit figures and computations involving hundreds of millions of dollars and billions of ton-miles to prove the importance of rate maintenance, but the following rough presentation is just as convincing. Call the average rate for transporting a ton of freight one mile, about eight-tenths of a cent. This minute sum of money is the measure of the bulk of the railroad revenue. A general rate war, occasioned by a lessening of traffic, might cut this rate to seven-tenths of a cent. The result would be a shrinkage in railroad gross earnings of about twelve per cent.; but statisticians tell us that the depression of 1893 and 1894 caused a reduction in railroad gross earnings of only fifteen per cent. Is it not plain, therefore, that the rate situation has a great influence upon the question of reduced earnings? It is not unlikely, indeed, that, with disastrous railroad rate wars out of the question, any future general business depression will be less severe; for nothing tends so surely to advance the country's welfare as does railroad prosperity, which is now upon a more enduring basis.

It would be a departure from the purpose of this discussion to enter more fully into the problems our railroads will face in hard times. If hard times shall come, railroads will stand their ground better than ever before, simply postponing their plans;

if prosperity shall, on the contrary, increase, the plans will merely be hastened. The point for intelligent inquiry is rather as to what the plans are and how near they are to accomplishment. Many who have given thought to the question agree that, at some distant day, the railroad industry will be so firmly intrenched on a profit-making basis, that all railroad securities will be locked up by investors and kept at a high valuation. It is certain that progress is slowly tending in that direction, and that each year removes the railroad industry still further from the harmful influence of business ups and downs. It may be stated unquestionably that nothing can occur to place our railroads in the position they occupied ten years ago, for there is a vast difference between the structure of a new enterprise and the solidity of an industry which has had drastic reorganization and has stood all tests. A permanent change has also come in general business; for this country, as a great World Power, is destined henceforth to do a vast business through lean years as well as rich.

Our railroads are developing commerce with Europe and with Asia. They used to be fully occupied with problems at home. This difference is the chief difference between the past and the present. To find better foreign markets for our products, we must solve the problem of getting our products to those markets so cheaply that the transportation cost will not raise the selling price to a prohibitive figure. The shoes manufactured in New England are sold all over the globe. But it is something of a problem to transport them across this continent, thence to Asiatic or Australian markets, and then to sell them at a price that will compete with the native product. We can produce iron and steel at lower cost than can any other country. The problem is, after its production, to pay for its transportation to foreign markets, and still to undersell the competitor who has no freight to pay.

The above has to do with the exportation of our own products. Another ambition before our railroads is the handling of traffic which has no relation to us, the building up of an entirely new business by offering the shortest and cheapest route between Europe and Asia and Australasia. We are ambitious to have England send her products to Japan by way of our continent, and to have our railroads carry the goods sent by Australia, China and the whole of the Far East to France, Germany and England. We are already carrying much of the freight that

needs rapid delivery. The aim is to carry also the freight that needs cheap delivery. Our railroad systems must compete for this traffic with the ships at sea, and must also prepare to meet the prospective competition of the Panama Canal.

Every inch of progress that is made towards securing traffic that does not originate or end in this country is a milestone of progress towards permanent railroad success. It matters not how many billions of dollars' worth of exports and imports pass between Europe and Asia. The figures would avail us nothing. Every one is aware that the total is large enough to occupy every energy and ambition of our railroads for years in the struggle to carry even a portion of it. It is patent, also, that every ton of such freight that is carried adds weight to the statement that business depression in off years will not hereafter cause railroad earnings so violently to decrease. The claim often made that traffic has become so diversified that crop roads will no longer suffer keenly from short crops will be strengthened, as miscellaneous traffic is developed in the manner outlined. We lack the ability to foresee the extent of future traffic increases, but we need not ignore the steps which our railroads are taking to secure a larger and more permanent tonnage.

Broadly considered, shortened lines and economy of management are the means to the one real end, reduced cost of transportation. It is necessary to note the distinction between low rates and low transportation cost. The rate is the charge made for carrying freight; the cost of transportation is the expense incurred in the service. The difference between the two is the profit. Seven years ago, the rate situation was threatening and almost uncontrollable. Conflicting interests caused reduction after reduction, and the margin of profit became small. It was then that the great problem of rate maintenance was solved. Combinations of our railroads into larger systems in harmony with one another did away with the incentive to cut rates. Rates, however, were already low and could hardly be restored. The next task was to reduce the cost of carrying freight, per ton-mile, to its proper relation to the prevailing rates, and to secure facilities for the proper handling of a greater traffic over the same lines, so that the aggregate of many profits, however small, might produce a large total. Then followed the greater problem of reducing the mileage by means of cut-offs, reduced grades and



eliminated curves, so that the rate for the long haul, although the same per mile, would be less for the full distance. If rates are to be about constant, any reduction of transportation cost by economy in operation will add to the net earnings by reducing expenses; and a reduction in the charge for the long haul, caused by shortening the route, will result in attracting a greater tonnage and will increase gross earnings.

An example of the work done to shorten routes is the improvement work upon the Central Pacific Railroad. The gigantic engineering task of building a permanent line across Great Salt Lake, in order to cut off the useless mileage around the lake, and the almost equally stupendous task of tunnelling through Battle Mountain, are instances in which millions of dollars have been spent to accomplish a lessening of distance. On the other hand, the large expenditures of the Pennsylvania Railroad are intended more to accomplish economy in transportation cost, by affording sufficient tracks, equipment and terminal room for the unimpeded handling of freight. To lessen the cost of carrying a ton of freight one mile by economy of operation, is to make possible in the end still greater reduction in rates. Shortening the railroad distance between Atlantic and Pacific ports will increase the business of our railroads as carriers of the world's commerce.

Fine, however, as are the distinctions between the various economic problems in railroad management, they are all carefully studied, and betterments are based upon scientific conclusions. The average train load is being increased; the heavier the train that can be hauled with the services of one train crew, the smaller the cost of carrying each ton of freight. An endeavor is being made to develop traffic in both directions, so as to avoid the sending back of long trains of empty cars. Granger roads used, of necessity, to operate extravagantly during crop-moving months, because the immense tonnage of grain was almost all carried eastward, and the cars had to be returned west empty. Now the westward movement of merchandise is very heavy, and an effort is always made to have the westward traffic heaviest when the rush is greatest to the east.

In emphasizing the claim that railroad amalgamations and betterments have been made with the object of attracting and of accommodating a traffic greater than has yet appeared, there

is no intention to look slightly upon the progress already made. The real ground for insisting upon the permanence of railroad prosperity lies not in the future more than in the past. The future was before us twenty years ago as truly as it is now. But the interim has been filled first with failures and discouragements, and, finally, with the past eight years of such progress as makes impossible a return of the early embarrassments. It is the accomplishment of the past which makes possible the near attainment of future ambitions. Railroad gross earnings increased from \$1,092,395,437 in 1895 to \$1,977,638,713 in 1904; while the mileage was growing to 211,074 miles from 179,154 miles. Meanwhile, rates decreased from 8.39 mills per ton per mile to 7.90 mills, and were, in 1899, as low as 7.26 mills. Gross earnings are the best measure of prosperity, when rates are not advancing, because they reflect the volume of increased business.

It is good for the railroads that the remuneration of labor and the *per capita* wealth of the country are greater than ever before. A rich community is a money-spending community, and the railroads always get the lion's share. It matters not that, in the raising of labor's wages, the railroads have had to share the additional expense. Increase in the cost of labor and of supplies is always concurrent with good times. It is better to prosper and spend much than to spend little but to fail despite the economy. This country's position in the front rank of steel-producing nations, and as the foremost manufacturing nation, as well as its growth in population and in industry, are the surest evidences of the new order of things. Population-growth alone means the settlement of the country with permanent communities, which, through bad times and good, will have to purchase the necessities if not the luxuries of life, and the railroads will have to handle the traffic. Manufactures exported from this country amounted, in 1905, to \$543,607,975 in value against \$159,000,000 in 1892; growth in the manufacturing industry is the barometer of enduring progress.

If it were necessary to prove every point, the subject would become too involved; some things must be taken for granted, among them that the country has forever taken its place among the leading nations of the world. The one object of this discussion is to outline the probabilities in the railroad world, which our leading railroad men are expecting. There is no intention of giving

a speculative character to the discussion or of predicting events with any positiveness. Too much argumentative literature is written, merely in order to influence sentiment. What is needed is a clear exposition of the railroad problem and of the outlook for continued prosperity, without relation to stock-market possibilities.

One phase of the future which is certain of attainment, however problematical the other possibilities may be, is the reduction in expenses which will occur when the principal improvements are completed. It is a strong point against the charge of extravagance in making improvements that much of the cost is being paid out of earnings, instead of from borrowed money. When the outlay shall finally cease, it will cause a scaling down of the percentage of expenses great enough to make large additions to net earnings. Many examples could be introduced to prove that the average sum of money spent annually out of earnings for extraordinary betterments is equal to a considerable percentage of total gross earnings, and is in many cases sufficient to pay substantial dividends upon stocks now paying nothing. The very possibility of cessation of these outlays is some insurance of the security of present dividend payments, which in many cases are being earned more than twice over.

There are certain to be further changes in the railroad map as time develops. Further concentration of ownership, and the rounding out of incomplete systems are mere matters of time. Current developments are all in that direction. Transcontinental systems will be perfected, and the route from coast to coast will be shortened.

H. C. G. BARNABY.